

SEQUENCE LISTING

<110> LANGENFELD, John
<120> BONE MORPHOGENETIC PROTEIN-2 IN THE TREATMENT AND DIAGNOSIS OF CANCER
<130> 270/070US
<140> to be assigned
<141> 2002-01-11
<150> US60/261,252
<151> 2001-01-12
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<170> PatentIn version 3.1

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 Glu Leu Gly Arg Arg Lys Phe Ala Ala Ser Ser Gly Arg Pro Ser
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 Asn Thr Val Arg Ser Phe His His Glu Glu Ser Leu Glu Leu Pro
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<301> Valenzuela,D.M., Economides,A.N., Rojas,E., Lamb,T.M., Nunez,L., Jones,P.,
Ip,N.Y., Espinosa,R., Brannan,C.I., Gilbert,D.J., Copeland,N.G., Jenkins,N.A.,
LeBeau,M.M., Harland,R.M. and Yancopoulos,G.D.
<302> Identification of mammalian noggin and its expression in the adult nervous
system
<303> J. Neurosci.
<304> 15
<305> 9
<306> 6077-6084
<307> 1995
<308> NM_005450
<309> 2000-11-01
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<300>
<301> McMahon,J.A., Takada,S., Zimmerman,L.B., Fan,C.M., Harland,R.M. and McMahon,
A.P.
<302> Noggin-mediated antagonism of BMP signaling is required for growth and
patterning of the neural tube and somite
<303> Genes Dev.
<304> 12
<305> 10
<306> 1438-1452
<307> 1998

<308> NM_005450
 <309> 2000-11-01
 <313> (1)..(699)

<300>
 <301> Brunet,L.J., McMahon,J.A., McMahon,A.P. and Harland,R.M.
 <302> Noggin, cartilage morphogenesis, and joint formation in the mammalian skeleton
 <303> Science
 <304> 280
 <305> 5368
 <306> 1455-1457
 <307> 1998
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 <309> 2000-11-01
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 <301> Smith, W.C.
 <302> TGF beta inhibitors. New and unexpected requirements in vertebrate development
 <303> Trends Genet.
 <304> 15
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 <306> 3-5
 <307> 1999
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 <301> Gong,Y., Krakow,D., Marcelino,J., Wilkin,D., Chitayat,D., Babul-Hirji,R., Hudgins,L., Cremers,C.W., Cremers,F.P., Brunner,H.G., Reinker,K., Rimoin,D.L., Cohn,D.H., Goodman,F.R., Reardon,W., Patton,M., Francomano,C.A. and Warman,M.L.
 <302> Heterozygous mutations in the gene encoding noggin affect human joint morphogenesis
 <303> Nat. Genet.
 <304> 21
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 <306> 302-304
 <307> 1999
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<301> Millet, C., Lemaire, P., Orsetti, B., Guglielmi, P., and Francois, V.
<302> The human chordin gene encodes several differentially expressed spliced variants with distinct BMP opposing activities
<303> Mech. Dev.
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<307> 2001
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<301> Millet, C., and Francois, V.
<302> Direct Submission
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Leu Leu Arg Ser Ser Leu Arg Phe Ser Ile Ser Tyr Arg Arg Leu Asp

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gag cac cct gca gcc ccc acc caa gat ggc ctg gtc tgt ggg gtg tgg Glu His Pro Ala Ala Pro Thr Gln Asp Gly Leu Val Cys Gly Val Trp 225	230	235	960
cgg gca gtg cct cgg ttg tct ctg cgg ctc ctt agg gca gaa cag ctg Arg Ala Val Pro Arg Leu Ser Leu Arg Leu Arg Ala Glu Gln Leu 240	245	250	1008
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cct ctc atc cgg cac cgg gcc ctg gct gca gag acc ttc agt gcc atc Pro Leu Ile Arg His Arg Ala Leu Ala Ala Glu Thr Phe Ser Ala Ile 275	280	285	1104
ctg act cta gaa ggc ccc cca cag cag ggc gta ggg ggc atc acc ctg Leu Thr Leu Glu Gly Pro Pro Gln Gln Gly Val Gly Gly Ile Thr Leu 290	295	300	1152
ctc act ctc agt gac aca gag gac tcc ttg cat ttt ttg ctg ctc ttc Leu Thr Leu Ser Asp Thr Glu Asp Ser Leu His Phe Leu Leu Leu Phe 305	310	315	1200
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gga ctg cgc ctg gag ggc ggg gcc gag ggg gtg cgg cgc ctg ggg Gly Leu Arg Leu Glu Ala Ala Gly Ala Glu Gly Val Arg Ala Leu Gly 655 660 665 670	2256
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Ala Gly Cys Thr Phe Gly Gly Lys Val Tyr Ala Leu Asp Glu Thr Trp
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His Pro Asp Leu Gly Glu Pro Phe Gly Val Met Arg Cys Val Leu Cys
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Glu Glu Arg Ala Arg Gly Asp Gly His Thr Asp Phe Val Ala Leu Leu
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180 185 190

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Ala Leu Val Thr Leu Thr His Pro Ser Gly Glu Val Trp Gly Pro Leu
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Gln Glu Met Asp Trp Leu Val Leu Gly Glu Leu Gln Met Ala Leu Glu
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Trp Ala Gly Arg Pro Gly Leu Arg Ile Ser Gly His Ile Ala Ala Arg
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Lys Ser Cys Asp Val Leu Gln Ser Val Leu Cys Gly Ala Asp Ala Leu
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Gly Asn Gly Ser Leu Ile Tyr Gln Val Gln Val Val Gly Thr Ser Ser
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Ala Arg His Asp Thr Leu Pro Val Pro Leu Ala Gly Ala Leu Val Leu
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675 680 685

Ala Pro Ala Lys Pro Gly Gly Pro Gly Arg Pro Arg Asp Pro Asn Thr
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Asn Tyr Asp Pro Leu Cys Ser Leu Cys Thr Cys Gln Arg Arg Thr Val
725 730 735

Ile Cys Asp Pro Val Val Cys Pro Pro Pro Ser Cys Pro His Pro Val
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Gln Ala Pro Asp Gln Cys Cys Pro Val Cys Pro Glu Lys Gln Asp Val
755 760 765

Arg Asp Leu Pro Gly Leu Pro Arg Ser Arg Asp Pro Gly Glu Gly Cys
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Tyr Phe Asp Gly Asp Arg Ser Trp Arg Ala Ala Gly Thr Arg Trp His
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Pro Val Val Pro Pro Phe Gly Leu Ile Lys Cys Ala Val Cys Thr Cys
805 810 815

Lys Gly Gly Thr Gly Glu Val His Cys Glu Lys Val Gln Cys Pro Arg
820 825 830

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Gln Cys Pro Val Gly Ser Gly Ala His Pro Gln Leu Gly Asp Pro Met

850

855

860

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Cys Ile Thr Cys Arg Cys Gly Ala Gly Val Pro His Cys Glu Arg Asp
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<301> Lah, M., Brodnicki, T., Maccarone, P., Nash, A., Stanley, E., and Harvey,
R.P.
<302> Human cerberus related gene CER1 maps to chromosome 9
<303> Genomics
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Thr Thr Arg His Gln Asp Gly Arg Gln Asn Gln Ser Ser Leu Ser Pro
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Val Leu Pro Arg Asn Gln Arg Glu Leu Pro Thr Gly Asn His Glu
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tcc agg gac tca gat agt gag ccc ttc cca cct ggg acc cag tcc ctc      336
Ser Arg Asp Ser Asp Ser Glu Pro Phe Pro Pro Gly Thr Gln Ser Leu
100         105         110

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Ser Arg Asp Ser Asp Ser Glu Pro Phe Pro Pro Gly Thr Gln Ser Leu
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Ile Gln Pro Ile Asp Gly Met Lys Met Glu Lys Ser Pro Leu Arg Glu
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Glu Leu Ser Ser Val Ile Lys Val Val Met Leu Val Glu Glu Cys Gln
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<301> ten Dijke, P., Yamashita, H., Ichijo, H., Franzen, P., Laiho, M., Miyazono, K., and Heldin, C.H.
<302> Characterization of type I receptors for transforming growth factor-beta and activin
<303> Science
<304> 264
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<307> 1994
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<301> Ide, H., Katoh, M., Sasaki, H., Yoshida, T., Aoki, K., Nawa, Y., Osada, Y., Sugimura, T., and Terada, M.
<302> Cloning of human bone morphogenetic protein type IB receptor (BMPR-IB) and its expression in prostate cancer in comparison with other BMPRs
<303> Oncogene
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<301> Ide, H., Saito-Ohara, P., Ohnami, S., Osada, Y., Ikeuchi, T., Yoshida, T., and Terada, M.
<302> Assignment of the BMPR1A and BMPR1B genes to human chromosome 10q22.3 and 4q23-->q24 by in situ hybridization and radiation hybrid mapping
<303> Cytogenet. Cell. Genet.
<304> 81
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<306> 285-286
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<301> Astrom, A.K., Jin, D., Imamura, T., Roijer, E., Rosenzweig, B., Miyazono, K., ten Dijke, P., and Stenman, G.
<302> Chromosomal localization of three human genes encoding bone morphogenetic protein receptors
<303> Mamm. Genome
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